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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 92-22] [Sept. 25, 1992]

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Insect Science
Plant Disease
Weed Science
NEWS

No. 92-22
Sept. 25, 1992

UNIVERSITY OF NEBRASKA COOPERATIVE EXTENSION • INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES

Plant Disease

Weather favorable for soybean seed diseases

With a few localized exceptions, our soybean crop has come through the 1992 growing season without serious disease challenges — but hold on, we're not out of the woods yet. Recent weather conditions have been favorable for infection of soybean seeds by several fungal pathogens, and it's a safe bet that the infection process has already occurred in some cases. Hence, the potential exists for seed quality and emergence problems next spring if infected seed is saved for planting next year's crop.

The fungus diseases most commonly identified are Phomopsis pod and stem blight (see *Stem and Pod Diseases*, page 3), anthracnose caused by *Colletotrichum dematium* var. *truncatum*, and purple seed stain caused by *Cercospora kikuchii*.

The symptoms of pod and stem blight and anthracnose are readily apparent on stems and pods of maturing plants. Purple seed stain symptoms are not seen on above-ground plant parts unless the pods are shelled and the seed is examined. Depending on the fungus involved, seed may have pink to purple blotches (purple seed stain), be gray colored with minute black specks (anthracnose), or covered with a white moldy growth giving a chalky appearance to the seed (pod and stem blight). Severely infected seeds may be shriveled, elongated, and/or have cracked coats.

Several seed treatment fungicides are registered for use on soybeans to control seed-borne pathogens. These include chloroneb (Chloroneb 65W), captan (Captan

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Maize chlorotic mottle virus identified in Kearney County

Maize chlorotic mottle virus (MCMV) has been confirmed in a corn field south of Wilcox in Kearney County, establishing a new county record. Confirmation was done by Dr. Les Lane and Dr. Stan Jensen using gel electrophoresis and ELISA. Several other samples of MCMV recently confirmed include a white corn sample from the Loomis area which also had wheat streak mosaic virus.

Other confirmed cases this year were from Overton, Cozad, and Lexington in Dawson County; Eustis and Farnam in Frontier County; Arapahoe and Holbrook in Furnas County; Indianola and Bartley in Red Willow County; and Elwood, Smithfield, and Bertrand in Gosper County. MCMV continues to spread into new areas in Nebraska and is intensifying in previously established areas. Control is primarily through crop rotation and the planting of tolerant hybrids.

Ben Doupnik, Jr.
Extension Plant Pathologist
SCREC, Clay Center

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Soybean stem, pod diseases still possible

Besides the Sclerotinia stem rot that was reported earlier in the season (see *IPW News* No. 92-19), there are two other stem and pod diseases producers should watch for.

Pod and stem blight and stem canker warrant a watchful eye, especially if the grower saves seed for next year's crop.

Soybean seed diseases

(Continued from page 1)

300, Captan Moly), and thiram (Thiram 50WP) as single active ingredient seed dressing fungicides. Somewhat broader-spectrum seed treatment dressings include combinations of TBZ with captan (Captan T, Agrosol FL) or with thiram (Agrosol T). Another combination includes carboxin with captan (Vitavax 20-20), thiram (Vitavax 200), or PCNB (Vitavax-PCNB). As always, follow the label for rate and method of application. **In no case should treated seed be used for food, feed, or oil purposes.**

David S. Wysong
Extension Plant Pathologist
Lincoln

Pod and stem blight does not contribute to a loss in the number of seeds produced but affects the seed's viability when there is pod infection. Symptoms are usually limited to stems and pods, with foliar symptoms rarely occurring. Dead stems may be covered with speck-sized fruiting structures of the fungus, pycnidia, which are arranged in lines running vertically down the stem and are usually associated with the nodes.

To control this disease, rotate soybeans with corn, for example, and remove residues. The primary source of inoculum is infested straw from the previous crop. Growers should use high quality seed and plant early or use long season varieties.

Stem canker is capable of killing full-grown plants from mid-season to maturity. The weather conditions during the early vegetative stages of growth greatly influence disease severity. Symptoms occur during early reproductive stages with the appearance of small reddish brown lesions which usually occur near the nodes. As the season progresses these lesions expand vertically on the stem and become brown to black and sunken. This disease is not an economic threat in Nebraska due to the existence of good resistance in most cultivars. Only occasionally does it become a problem when relatively susceptible cultivars are planted from "home grown" seed and when a soybean after soybean rotation is used.

Diane A. Merrell
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Lisa Brown Jasa, Editor

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Stalk rot spreading; harvest early if symptoms severe

This is just another reminder that stalk rot in corn is continuing to develop in many fields across the state. I visited with several crop consultants last week, all of whom reported that the disease is becoming more widespread and serious in the fields they periodically examine. It's still too early to predict its impact on final grain yields — too much depends on the fall harvest weather — but the potential exists for the crop to be "at risk."

As corn plants mature, the disease develops rapidly in the lower stalk nodes, which causes a loss of strength in the tissues just above the brace roots. Weather-related factors that enhance stalk rot include moderate temperatures and cool nights, intermittent rains and wet weather. Expected high yields and relatively high plant densities also increase the severity of the disease. Growers should be encouraged to harvest severely affected fields as soon as weather permits in order to escape losses due to stalk lodging.

David S. Wysong
Extension Plant Pathologist
Lincoln

Weed Science

Control leafy spurge, pesky perennnials in fall

Leafy Spurge

Leafy spurge is a persistent, deep-rooted perennial which reproduces by seeds and roots. It is found primarily on untilled land and is a noxious weed in Nebraska. A well-planned program must be followed to obtain adequate control. A combination of crop rotations, cultivation and herbicides can provide good control of leafy spurge on cultivated land.

Herbicides for controlling leafy spurge in grassland are 2,4-D ester at 2 qt/A, 1 qt 2,4-D + 1 pt of Tordon 22K or Tordon 22K at 2 to 4 qt/A. Tordon 22K is much more effective than 2,4-D against leafy spurge. Also, multiple treatments will be more effective than a single treatment in reducing leafy spurge root growth. Fall treatments to actively growing plants will provide better control than spring treatments.

Musk Thistle

Musk thistle is primarily a biennial, but may act as a winter annual or, less frequently, as an annual. It is a prolific seed producer, as one plant can produce as many as 20,000 seeds. It has spread throughout the state and will invade almost any location that has sufficient moisture and light for growth. Since this fall has started out moist in many areas of the state, conditions appear good for development of large populations of musk thistle.

Apply herbicides to control musk thistle after October 1. Options include Tordon 22K at 6 to 8 fluid ounces, 2,4-D + Banvel at 1.0 qt + .5 pt, Ally at .3 fluid ounces, Curtail at 2 pt, and 2,4-D at 1.5 to 2.0 qt. These herbicides will be most effective when the musk thistle is actively growing prior to a hard freeze. Tordon 22K is the best treatment when conditions are cool and dry.

Pesky perennials

As the perennial weed begins the "dormant" stage of its life cycle, nutrients from the summer's top growth are translocated into the root system. When this occurs, herbicides that have been applied this fall can actively move with the nutrients. Canada thistle, Russian knapweed, field bindweed and many other perennial weeds can be effectively treated with herbicides at this time.

The most effective herbicides for controlling these perennials include Tordon at 1-4 qt/A depending on the weed and combinations of 2,4-D + Tordon. Banvel and Roundup combinations with 2,4-D are useful on Canada thistle and field bindweed. Applications, other than high rates of Tordon, must be made more than once for good control. Tordon use for perennial weeds is limited to non-crop areas. Ally at .1 oz and Curtail at 2-4 pts also can be used for Canada thistle control. Treat after mid-September before a hard freeze occurs and when daytime temperatures are still in the 50s.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant, Weed Science
Lincoln

Insect Science

Crop Pest Management Update Dec. 3-4 in Kearney

The 1992 Crop Pest Management Update (CPMU) conference will be Dec. 3-4 at the Ramada Inn in Kearney. This conference is designed to provide agricultural professionals the latest information about field crop pest management. The intended audience includes agrichemical and fertilizer dealers, commercial applicators, crop consultants, farm and ranch operators, farm lenders, extension agents, conservation officers, and seed company representatives. Program topics include: University of Nebraska pest management research updates; shattercane biology; corn rootworm management; on-farm research methods; leafy spurge control; an insider's look at the EPA; interpretations of soil fertility test results; and an objective look at the food safety issue.

The meeting will begin at noon on Dec. 3 with a lunch and conclude at 3 p.m. Dec. 4. The $75 registration fee ($100 after Nov. 23) includes a copy of the proceedings, two lunches, one dinner, and refreshments.

To obtain a program summary and preregistration forms contact our secretary: Pat Mattran, Room 210 PI Bldg., Dept. of Entomology, University of Nebraska - Lincoln, NE 68583-0816; phone: (402) 472-2125. Rooms are available at the Ramada Inn at a discounted price for this conference and lodging reservations should be made directly with the motel by calling (800) 248-4460.

I look forward to seeing you at CPMU in December!

Steve Danielson
Extension Entomologist
Lincoln

Get the facts from Extension publications

The following new or revised publications have been released by the University of Nebraska Cooperative Extension. Most are available at your local Extension office or can be ordered by writing Bulletins, 105 ACB, PO Box 830918, University of Nebraska, Lincoln, NE 68583-0918. When ordering more NebGuides than that, cost is 25 cents each. (NebGuides are denoted by a G preceding the order number.) Shipping, handling and state and local sales tax will be added when ordering from the Bulletin office in Lincoln. Prices for other publications, such as Extension Circulars (ECs) are listed below.

G78-425 1993 Beef Report Summaries. Capsulized reports of recent University of Nebraska beef research in the areas of cow-calf, growing, finishing, and meats.

G86-821 Weaned Pig Management and Nutrition. Temperature, space, health considerations, dietary nutrient allowances, feeding management, source of starter diets and more are covered here. Also included are tables and discussion concerning minimum recommended space allowances for weaned pigs; the effect of continuously used or all-in all-out facility management on nursery pig growh performance, and digestive enzyme activity in youg pigs.

EC92-1248 Growing Squash and Pumpkin for food and ornamentation. When you're enjoying this fall's selection, you might want to read this publication to learn more about the differences between varieties and plan next year's crop. Squash is one of the first vegetables to be planted in Nebraska. This publication covers food and ornamental uses; culture; varieties; soil preparation and fertilizer; planting; diseases; weed control; insects; harvesting and storage. It also includes tables on characteristics of both summer and winter squash varieties; pumpkin and squash having decorative or novelty value; seed companies; and suggested planting dates for different parts of Nebraska.